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(i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT
WAGVEAIIRILQQLLFIHFRIGCRHSRIGVTQQRRARNGASRS,

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS ALVEMGVEMGHHAPWDIDDL, and

(iii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH
PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC; and

- (b) detecting the formation of hybrids between said one or more nucleic acid probes and nucleic acid present in said biological sample.
- 36. (NEW) The method according to claim 35, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.
- 37. (NEW) An *in vitro* diagnostic method for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

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- (a) contacting said biological sample with one or more nucleic acid probes comprising
- (i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT WAGVEAIIRILQQLLFIHFRIGCRHSRIGVTQQRRARNGASRS and

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS ALVEMGVEMGHHAPWDIDDL; and

- (b) detecting the formation of hybrids between said one or more nucleic acid probes and nucleic acid present in said biological sample.
- 38. (NEW) The method according to claim 37, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.
- 39. (NEW) An *in vitro* diagnostic method for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:
- (a) contacting said biological sample with one or more nucleic acid probes comprising
- (i) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

FINNEGAN HENDERSON FARABOW GARRETT& DUNNER LLP

1300 I Street, NW Washington, DC 20005 202.408.4000 Fax 202.408.4400 www.finnegan.com MQPIQIAIAALVVAIIIAIVVWSIVIIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS
ALVEMGVEMGHHAPWDIDDL and

(ii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH
PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC; and

- (b) detecting the formation of hybrids between said one or more nucleic acid probes and nucleic acid present in said biological sample.
- 40. (NEW) The method according to claim 39, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.
- 41. (NEW) An *in vitro* diagnostic kit for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:
 - (a) a composition comrising one or more nucleic acid probes comprising
- (i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT WAGVEAIIRILQQLLFIHFRIGCRHSRIGVTQQRRARNGASRS,

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

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MQPIQIAIAALVVAIIIAIVVWSIVIIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS ALVEMGVEMGHHAPWDIDDL, and

(iii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1

(HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH
PVSLHGMDDPEREVLEWRFDSRLAFHHVARELHPEYFKNC;

- (b) reagents for detecting the hybrids; and
- (c) a biological reference sample lacking nucleic acid recognized by said nucleic acid probe composition.
- 41. (NEW) The kit according to claim 41, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.
- 43. (NEW) An *in vitro* diagnostic kit for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:
 - (a) a composition comprising one or more nucleic acid probes comprising
- (i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT WAGVEAIIRILQQLLFIHFRIGCRHSRIGVTQQRRARNGASRS and

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(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS ALVEMGVEMGHHAPWDIDDL;

- (b) reagents for detecting the hybrids; and
- (c) a biological reference sample lacking nucleic acid recognized by said nucleic acid probe composition.
- 44. (NEW) The kit according to claim 43, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.
- 45. (NEW) An *in vitro* diagnostic kit for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:
 - (a) a composition comprising one or more nucleic acid probes comprising
- (i) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1(HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS
ALVEMGVEMGHHAPWDIDDL and

(ii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI

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